AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for removing a virus from a liquid sample, the method comprising:

obtaining a membrane engrafted with polymeric side chains, each side chain having one or more positively charged functional groups that interact with viruses, the polymeric side chains each having one functional group per repeat unit, each functional group consisting of a single secondary, tertiary, or quaternary amine, and having a single positive charge at physiological pH, wherein the membrane has a nominal pore size between 20 nm and 1000 nm; and

passing the sample through the membrane to remove viruses from the sample.

2. (Original) The method of claim 1, wherein the membrane has a nominal pore size between 200 nm and 500 nm.

3. (Original) The method of claim 1, wherein the membrane comprises polypropylene and the polymeric side chains comprise diethylaminated poly(glycidyl methacrylate).

4. (Original) The method of claim 1, wherein the polymeric side chains have an average length between 50 nm and 2000 nm.

5. (Original) The method of claim 1, wherein the polymeric side chains have an average length between 500 nm and 1000 nm.

6. (Original) The method of claim 1, wherein between 1.0e16 and 1.0e20 of the side chains are engrafted per square meter of the membrane's surface area.

7. (Original) The method of claim 1, wherein between 1.0e17 and 1.0e18 of the side chains are engrafted per square meter of the membrane's surface area.

8. (Original) The method of claim 1, wherein the membrane has a degree of grafting between 50% and 500%.

9. (Original) The method of claim 1, wherein the membrane has a degree of grafting between 150% and 300%.

10. (Original) The method of claim 1, wherein the method is effective to remove at least 99.999% of virus particles from the sample.

11. (Original) The method of claim 1, wherein the method is effective to remove at least 99.99999% of virus particles from the sample.

12. (Original) The method of claim 1, wherein the virus is a retrovirus.

13. (Original) The method of claim 1, wherein the sample comprises a protein, and wherein less than 10% of the protein is removed from the sample in said passing step.

14. (Original) The method of claim 13, wherein less than 2% of the protein is removed from the sample.

15. (Original) The method of claim 13, wherein the sample is a plasma sample, and the method results in less than a five-fold increase in the plasma sample's clotting time.

16. (Original) The method of claim 1, wherein the sample flows through the membrane at a rate of 1 to 1000 ml/min per square centimeter of membrane.

17. (Original) The method of claim 1, wherein the sample flows through the membrane at a rate of 20 to 200 ml/min per square centimeter of membrane.

18. (Original) The method of claim 1, further comprising eluting the virus from the membrane with an eluent solution to obtain a suspension of substantially purified virus in the eluent solution.

19. (Original) The method of claim 18, wherein the eluent solution comprises sodium chloride.

20. (Original) The method of claim 18, wherein the purified virus is bioactive.

21. (Original) The method of claim 18, wherein the purified virus is concentrated more than 100-fold relative to the sample.

22-40. (Cancelled)

41. (Previously Presented) The method of claim 1, wherein at least 97% of the polymeric repeats are covalently linked to a positively charged functional group.

42. (Cancelled)

43. (Previously Presented) A method for removing a virus from a liquid sample, the method comprising

obtaining a membrane engrafted with polymeric side chains having one or more positively charged functional groups that interact with viruses, wherein at least 97% of the polymeric repeats are covalently linked to a positively charged functional group, the membrane has a nominal pore size between 20 nm and 1000 nm; and

passing the sample through the membrane to remove viruses from the sample.

44. (Previously Presented) The method of claim 43, wherein the positively charged functional group is an amino group.

45. (Previously Presented) The method of claim 43, wherein the positively charged functional group is a diethylamino group.

46. (Previously Presented) The method of claim 1, wherein the membrane was engrafted using electron beam irradiation and incubation with a precursor of the polymeric side chain.

47. (Previously Presented) The method of claim 46, wherein the precursor of the polymeric side chain is glycidyl methacrylate.

48. (Previously Presented) The method of claim 1, wherein the method is effective to remove at least 99.99999% of virus particles from the sample when the sample comprises approximately 10^7 retroviral particles in 100 ml and the membrane is a hollow cylinder, about 2 cm in length and about 1-4 mm in diameter.

49. (Cancelled)